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Part II

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40 CFR Part 60

Standards of Performance for New Stationary Sources Portland Cement Plants; Amendments to Monitoring, Recordkeeping, and Reporting Requirements; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 60

[AD-FRL-3085-5]

Standards of Performance for New Stationary Sources Portland Cement Plants; Amendments to Monitoring, Recordkeeping, and Reporting Requirements

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: Revisions to the monitoring, recordkeeping, and reporting requirements associated with the new source performance standards (NSPS) for portland cement plants were proposed in the **Federal Register** on September 10, 1985 (50 FR 36956). Such requirements are authorized by section 114 of the Clean Air Act, 42 U.S.C. 7414. This action promulgates final revisions to the requirements. The effect of this action is to require monitoring and associated recordkeeping and reporting of visible emissions from all kilns and clinker coolers that are subject to the NSPS, i.e., all kilns and clinker coolers that were constructed, modified, or reconstructed after August 17, 1971.

EFFECTIVE DATE: December 14, 1988.

Under section 307(b)(1) of the Clean Air Act, judicial review of the actions taken by this notice is available *only* by the filing of a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit within 60 days of today's publication of this rule. Under section 307(b)(2) of the Clean Air Act, the requirements that are the subject of today's notice may not be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements.

ADDRESSES: *Background Information Document.* The background information document (BID) for the promulgated revisions may be obtained from the U.S. EPA Library (MD-35), Research Triangle Park, North Carolina 27711, telephone number (919) 541-2777. Please refer to "Portland Cement Plants—Background Information for Promulgated Revisions to Standards," EPA-450/3-85-003b. The BID contains (1) a summary of all the public comments made on the proposed amendments and the Administrator's response to the comments and (2) a summary of the changes made to the amendments since proposal. There are no changes to the final environmental impact statement presented in the documentation for the original standards.

Docket. A docket, number A-84-08, containing information considered by EPA in development of the promulgated amendments, is available for public inspection between 8:00 a.m. and 3:30 p.m., Monday through Friday, at EPA's Central Docket Section (LE-131), South Conference Center, Room 4, 401 M Street, SW., Washington, DC 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Mr. Doug Bell or Ms. Shirley Tabler, (919) 541-5256, concerning the regulatory decisions for the amendments and Mr. Kenneth R. Durkee, Industrial Studies Branch, (919) 541-5425, concerning technical aspects of the industry and control technologies. The address for both parties is Emission Standards Division (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711.

SUPPLEMENTARY INFORMATION:

I. The Promulgated Revisions

Under sections 111 and 114 of the Clean Air Act, new source performance standards (NSPS) and monitoring, recordkeeping, reporting, and testing requirements for portland cement plants were promulgated by EPA on December 23, 1971 (36 FR 24876), and revised on November 12, 1974 (39 FR 39872). The existing standards apply to any facility that manufactures portland cement by either the wet or dry process and that commenced construction, modification, or reconstruction after proposal on August 17, 1971 (36 FR 15704). These standards limit emissions of particulate matter from new, modified, or reconstructed kilns, clinker coolers, raw mill systems, finish mill systems, raw mill dryers, raw material storage areas, clinker storage areas, finished product storage areas, conveyor transfer points, bagging operations, and bulk loading and unloading systems.

The existing standards limit particulate mass emissions from the kiln to 0.15 kilogram per megagram (kg/Mg) (0.30 pound [lb]/ton) of feed (dry basis) to the kiln; visible emissions are limited to 20 percent opacity. The existing standards also limit particulate mass emissions from the clinker cooler to 0.05 kg/Mg (0.10 lb/ton) of feed (dry basis) to the kiln; visible emissions are limited to less than 10 percent opacity. Visible emissions from all other affected facilities are limited to less than 10 percent opacity.

Section 111(b)(1)(B) of the Act requires review of the NSPS at least every 4 years and, if appropriate, revision of the standards. The principal purpose of such review and appropriate revisions is to ensure that the standards reflect a current assessment of best demonstrated technology (BDT). The first review of the standards was completed in 1979. No revisions to the standards were made as a result of that review (44 FR 60761).

In 1983, EPA undertook a second review of the standards of performance and the monitoring, recordkeeping, reporting, and testing requirements for portland cement plants. As a result of the second 4-year review, amendments to the monitoring, recordkeeping, and reporting requirements associated with the NSPS were proposed on September 10, 1985 (50 FR 36956). The basis and purpose of the amendments are stated in the notice of proposed rulemaking. Revisions and supplementary rationale arising as a result of comments on the proposal are presented in Part IV of this notice.

The amendments require that a continuous opacity monitoring system (COMS) be installed to monitor the opacity of visible emissions from control devices used on all kilns and clinker coolers that are subject to the NSPS, i.e., all kilns and clinker coolers that were constructed, modified, or reconstructed after August 17, 1971. When the affected kiln uses a bypass system that prevents all or a portion of the kiln exhaust gases from entering the main control device and the gases are ducted through a separate control device, a COMS is required on each bypass stack as well as on the main control device stack. The bypass system does not include emergency systems designed to duct gases directly to the atmosphere in the event of a malfunction of any device controlling kiln emissions. Each owner or operator that is required to install a COMS must install, calibrate, maintain and operate the COMS as required by 40 CFR 60.13 and must complete installation within 180 days of promulgation of the amendments. Excess emissions recorded by the COMS must be reported semiannually. For the purpose of reporting, periods of excess emissions are defined as all 6-minute periods during which the average opacity exceeds the applicable opacity standard. The reports of excess emissions must conform to the requirements of 40 CFR 60.7(c).

In cases where control of emissions from affected facilities (kilns and clinker coolers) is accomplished by a positive-pressure or negative-pressure fabric filter with multiple stacks or by an electrostatic precipitator (ESP) with multiple stacks, the requirement to install a COMS is waived. Multiple-stack control devices may offer some

economic and environmental advantages, and it would be very costly to require the installation of multiple COMS's in those cases. Instead, a certified observer may record the opacity of any visible emissions for at least three 6-minute periods once per day of operation according to EPA Method 9.

A single COMS may not measure accurately the opacity of visible emissions from a monovent. Therefore, where control is accomplished with a control device that exhausts gases through a monovent, monitoring must be performed using visible emission observations in accordance with Method 9.

If visible emissions are observed for a number of emission sites from a control device with multiple stacks, Method 9 observations will be recorded for the emission site with the highest opacity. The excess emissions recorded using EPA Method 9 must be reported semiannually. In addition, owners or operators of facilities (kilns) that use the Method 9 monitoring alternative must submit semiannual reports of the frequency, duration, and cause of any malfunction resulting in bypass or deenergization of any device controlling kiln emissions.

These monitoring, recordkeeping, and reporting requirements are being imposed for the purposes of (1) indicating when repairs, maintenance, or changes in operation of emission control devices or other equipment are necessary; (2) indicating when performance tests are necessary to determine whether sources are in compliance with the NSPS; and (3) gathering information that will aid in future development and revisions of the standards. These requirements do not affect the rules governing determination of compliance with the standards (40 CFR 60.11(a), 60.11(b)).

II. Environmental, Energy, and Economic Impacts

The environmental and energy impacts of the standards are not changed by the amendments and, thus, were not reassessed. The economic impacts and cost effectiveness of the standards were evaluated in order to ensure that the control technology required by the NSPS for portland cement plants is still reasonable.

As of December 1983, 45 companies operated 143 portland cement plants in the U.S. and Puerto Rico. Growth of the portland cement industry is closely tied with growth of the construction industry. Since the 1979 review of the NSPS, a total of 30 kilns and 20 clinker coolers have become subject to the NSPS; 31 plants have facilities other than the kiln and clinker cooler that have become subject to the NSPS. Permits have been issued for four entirely new plants in the U.S., two additional plants have submitted permit applications, at least three existing plants plan reconstruction or modification activities that would bring them under the standards, and four plants currently subject to the standards plan to add new facilities to the existing plant. Construction could begin on these projects in the next 3 years.

The cost effectiveness of the standards to reduce particulate matter from kilns is estimated to range from $43 to $52 per Mg ($39 to $47 per ton) of particulate matter removed for fabric filter control and from $35 to $45 per Mg ($32 to $40 per ton) for ESP control of typical facilities. The cost effectiveness of the standard for clinker coolers is estimated to range from $28 to $45 per Mg ($26 to $41 per ton) for fabric filter control of typical facilities. The cost effectiveness of the standards for other facilities (e.g., mills and storage/transfer facilities) controlled by fabric filters is estimated to range from $31 to $93 per Mg ($28 to $84 per ton). The cost effectiveness of EPS control of finish mills is estimated to be $175 per Mg ($155 per ton). Additional details on costs can be found in the BID for the proposed amendments.

The amendments to the monitoring, recordkeeping, and reporting requirements ensure that the environmental goals of the NSPS are met. The cost and economic impacts associated with the amendments were evaluated prior to proposal of the amendments (see 50 FR 36962) and have been reevaluated as a result of comments received after proposal. Based on information submitted by industry at EPA's request, the capital cost for a COMS has been revised and is expected to range from $32,000 to $40,000 in 1984 dollars. The resulting revised annualized cost is estimated to be $12,800. The requirement to install COMS's results in a maximum increase in annual control costs of 3.8 percent (0.6 percent higher than EPA's estimate at proposal). The annualized cost of visible emission observations submitted by industry was lower than the EPA's estimate at proposal ($8,700), which is less than 3 percent of annualized control costs.

III. Public Participation

Prior to proposal of the amendments of the monitoring, recordkeeping, and reporting provisions, interested parties were advised by public notice in the **Federal Register** on June 29, 1984 (49 FR 26807), of a meeting of the National Air Pollution Control Techniques Advisory Committee to discuss the revisions recommended for proposal. This meeting was open to the public, and each attendee was given an opportunity to comment on the amendments recommended for proposal.

The proposed amendments were published in the **Federal Register** on September 10, 1985 (50 FR 36956). The preamble to the proposed amendments announced the availability of the BID (Portland Cement Plants—Background Information for Proposed Revisions to the Standards, EPA 450/3–85–003a), which described in detail the results of the second 4-year review of the NSPS. Public comments were solicited at the time of proposal, and copies of the BID were distributed to interested parties.

To provide interested persons the opportunity for oral presentation of data, views, or arguments concerning the proposed amendments, a public hearing was held on October 25, 1985, at Research Triangle Park, North Carolina. The hearing was open to the public, and each attendee was given an opportunity to comment on the proposed amendments. Four interested parties testified at the public hearing.

The public comment period was from September 10, 1985, to November 25, 1985. Eighteen comment letters were received. The comments have been carefully considered, and, where determined to be appropriate by the Administrator, changes have been made in the proposed amendments.

IV. Significant Comments and Changes to the Proposed Amendments

Comments on the proposed amendments were received from industry, State and local air pollution control agencies, and trade associations. A detailed discussion of these comments and responses can be found in the promulgation BID, copies of which are available upon request. See the **ADDRESSES** section of this preamble. The comments and responses in the BID serve as the basis for the changes that have been made to the amendments between proposal and promulgation. The major comments and responses are summarized in this preamble.

In response to the public comments and as a result of reevaluation by EPA, several changes have been made to the amendments since proposal. The rationale for these changes is presented below in the responses to the public comments.

The COMS excess emission reporting frequency has been changed from quarterly to semiannually. Also, the

separate requirement to submit semiannual reports on the frequency, duration, and cause of any episodes leading to bypass or deenergization of any device controlling kiln emissions has been deleted for sources using a COMS. The EPA has determined that this information can be obtained from the semiannual excess emission reports. However, those sources that do not install a COMS are required to submit semiannual reports on the frequency, duration, and cause of any incident leading to bypass or deenergization of the kiln control device.

The regulation has been revised to allow owners or operators of existing and new, multi-stack, positive- or negative-pressure fabric filters or multi-stack ESP's the option of performing daily observations of opacity in accordance with EPA's Method 9 in lieu of installing COMS's. The EPA has determined that multiple-stack control devices may have some economic and environmental advantages (such as permitting faster identification and resolution of problems within a compartment) compared to single-stack control devices. Therefore, EPA does not want to discourage the use of multiple-stack control devices by requiring installation of multiple COMS's. The regulation also has been revised to require visible emission observations in accordance with Method 9 rather than the use of a COMS for facilities that control emissions with a device that exhausts gases through a monovent. This requirement is being imposed because a COMS may not measure accurately the opacity of visible emissions from a movement.

Section 60.63(c) has been revised to clarify that where visible emissions are observed for a number of emission sites on either multiple-stack fabric filters or ESP's, Method 9 observations must be made for the emission site with the highest opacity.

For clarification, definitions of "bypass," "bypass stack," and "monovent" have been added to the amended regulation. The definition of bypass does not include emergency systems that exhaust gases directly to the atmosphere during a malfunction.

Most of the comment letters contained multiple comments, and the comments have been divided into several topics. The following areas are discussed below: Costs and Economic Impacts, Legal Considerations, Testing and Monitoring, and Reporting and Recordkeeping.

Costs And Economic Impacts

A. Costs of Continuous Opacity Monitoring Systems

Several commenters believe that EPA underestimated the capital and annualized costs of installing COMS's on control device stacks from kilns and clinker coolers at portland cement plants. The commenters believe that the costs presented by EPA are too low and do not include all components involved in the COMS installation. The commenters believe that:

1. The EPA has underestimated ancillary costs such as those for tools for calibration and repair. In addition, an estimate for COMS installation should include the following components: Engineering, the COM, a recorder, an alignment tool, materials, labor, certification, the cost associated with ensuring that access ladders comply with safety standards, and other contingencies;

2. The EPA did not consider the substantial costs of constructing access to and platforms on installation sites, and those costs, in many cases, could surpass hardware costs;

3. Costs for older plants may be substantially higher than those for new plants because of limited accessibility of stacks;

4. The estimate of 22 hours of labor for maintenance seems low and assumes few, if any, breakdowns; and

5. The annualized cost should reflect the higher cost of installation, as discussed above.

The commenters' estimates of capital and installation costs for a COMS ranged from greater than $50,000 to $1.5 million per COMS, and their estimates of annualized costs ranged from $12,500 to $125,000. The high estimate of annualized cost was based on an estimate provided to one company by an independent engineering firm and included a self-supporting stair tower around the existing stack and a new platform.

In response to these comments, EPA requested additional information from seven plants that have already installed COMS's, generally in response to State or local requirements. Five responses for six COMS installations were received (see entries in Docket Category IV–D). The information request sent to the respondents specifically asked for cost information on tools for calibration and repair, engineering, a recorder, certification, contingencies, etc. Table 1 presents a summary of the capital and annual COMS costs reported for the six installations. For comparison, all cost data were updated to 1984 dollars (Docket Item IV–B–4). The kilns at Plants C, D, and E are subject to the NSPS; Plants A and B are subject to State requirements only. At the plants surveyed, COMS's were installed on existing stacks for four of the kilns and were installed during construction for two of the kilns.

The cost for a COMS and associated equipment ranged from $18,000 to $27,000. Plant E reported a cost of $55,200, but this was for a combination opacity, SO_2, NO_x, and CO_2 monitor. The vendor of the $55,200 combination monitor reported that the cost for an opacity monitor alone at Plant E would be about $18,000 (Docket Item IV–E–60).

TABLE 1.—CONTINUOUS OPACITY MONITORING SYSTEM CAPITAL AND ANNUAL COSTS

[1984 dollars]

Plant	Plant A (retrofit/ non-NSPS)	Plant B (retrofit/ non-NSPS)	Plant C (retrofit/ NSPS)	Plant D (retrofit/ NSPS)	Plant E (new/ NSPS)	Plant D (new/ NSPS)	EPA estimate at proposal
Capital costs:							
COMS and equipment cost	19,128	27,274	18,488	21,782	[a] 55,179	21,632	22,000
Installation cost	36,340	[b] 8,648	13,150	10,055	[c] 657,856	10,055	} 9,500
Certification cost	1,500	[d] 0	5,142	NA	1,500	NA	
Total	56,968	[e] 35,922	36,780	[f] 31,837	[g] 714,535	[f] 31,687	31,500
Annual costs:							
Utilities and operating labor	2,028	2,250	[h] NA	885	880	885	4,514
Maintenance	500	4,503	1,450	[i] 2,213	4,600	429	1,047
Capital recovery	[j] 9,271	[k] 5,850	[j] 5,986	[j] 5,181	[j] 107,066	[j] 5,157	5,127

TABLE 1.—CONTINUOUS OPACITY MONITORING SYSTEM CAPITAL AND ANNUAL COSTS—Continued

[1984 dollars]

Plant	Plant A (retrofit/ non-NSPS)	Plant B (retrofit/ non-NSPS)	Plant C (retrofit/ NSPS)	Plant D (retrofit/ NSPS)	Plant E (new/ NSPS)	Plant D (new/ NSPS)	EPA estimate at proposal
Total	11,799	[a] 12,613	[b] 7,436	8,279	[a] 112,346	6,471	10,688

NA=not available.

[a] The cost reported by the plant is for a combination opacity, SO_2, NO_x, and CO_2 monitor. The vendor reports that the cost for the opacity monitor alone would be approximately $18,000 (1985 dollars).

[b] Cost underestimated because the entire cost of wiring and conduit could not be determined.

[c] The COMS was installed during construction and was included in the installation cost of the stack. Labor cost of $40,000 was included in the response, but it included building a 5 ft x 10 ft structure around the monitor.

[d] The COMS has not been certified, and there are no plans to have it certified.

[e] Total cost underestimated because installation cost was underestimated.

[f] This is the estimated cost in 1985 dollars for COMS installation on the clinker coolers based on Plant D experience installing COMS's on its kilns.

[g] Cost overestimated because this includes cost of installing the stack.

[h] Utilities and labor for the COMS alone could not be determined.

[i] There is no access or platform installed. A lift truck is used to reach the COM (21 feet above grade) for maintenance. This cost includes the amount the plant would have to spend to rent a high lift truck if it did not already have one.

[j] A capital recovery charge was calculated (16.275 percent of capital costs) to compare EPA and Plant B costs. Overhead was not included in Plant B costs.

[k] Total cost underestimated because utilities and labor cost could not be determined.

These monitor costs are consistent with EPA's previously estimated cost of $22,000.

At Plant A, which is not subject to the NSPS, a new platform and access had to be installed because the existing platform and access were not in a location suitable for COMS installation. The installation and certification cost of this COMS was $37,800. The largest cost components at this plant were a transformer and the labor to install the COMS, platform, and access. The costs at this plant are unusually high. However, if this kiln were subject to the NSPS, the platform and access would have been in a location suitable for stack testing and, thus, for COMS installation; therefore, the platform and access would not have required rebuilding. Also, if the kiln were subject to the NSPS, the proper voltage and amperage would have been available to perform EPA Method 5 during compliance testing. Thus, for these reasons, EPA believes that the COMS installation costs at this plant are not representative of the COMS installation costs for a plant subject to the NSPS. At Plant B, the existing platform and access were used, and the total installation cost was about $8,600.

At Plant C, the existing stack testing platform and access were used with modifications at a reported installation and certification cost of $18,300. At Plant D, the existing stack testing platform and access were used for one kiln, and the plant estimated the installation cost at $10,100 in 1985 dollars. The 1985 capital and installation costs provided for this facility were the plant's estimated and budgeted costs to install COMS's on its clinker coolers based on its experience and the costs of installing COMS's on its kilns. Thus, for Plants A, B, C, and D, COMS installation costs for existing kilns, including certification costs where available, ranged from $8,600 to $37,800. The EPA had estimated a total installation cost of $9,500 (including operator training and certification), which is at the lower end of the range of costs reported by the four facilities. The high estimate of $37,800 includes the costs for installation of a new platform and access and for a transformer. However, as discussed previously, the $37,800 estimated cost would not be typical for a plant subject to the NSPS, and, excluding this estimate, the COMS installation and certification costs range from $8,600 to $18,300.

Plant E provided cost information for a COMS installed on the kiln stack during construction of the kiln. Because only total construction costs were available, the plant was not able to determine the cost for installing only the COMS. The reported installation and certification cost of $659,400 includes the cost of the stack and $40,000 for purchase of the COMS. The cost of the COMS is overstated because it is for a combined opacity, SO_2, NO_x, and CO_2 monitor. The platform and access and the majority of the engineering and supervision activities would have been required for performance testing, and, thus, the associated costs are not directly attributable to the COMS. Therefore, it is not possible to make a comparison between this plant's installation cost and EPA's estimated installation cost.

One of the plants that installed a COMS on its existing kiln also installed a COMS on a new kiln during construction; and the plant estimated that the installation cost, $10,000, was about the same in both cases.

In conclusion, these responses show that capital and installation costs are site-specific and that the installation costs are generally higher than costs previously estimated by EPA. The total capital and installation costs of COMS's ranged from $31,700 to $57,000 compared to EPA's previous estimate of $31,500. However, for the reasons stated previously, it has been determined that the higher cost of $57,000 is not representative of COMS capital and installation costs at plants subject to the NSPS because the plant reporting that cost was not subject to the NSPS and had to install a new platform and access. Thus, in response to the survey, EPA has reevaluated its estimate of COMS capital and installation costs and has increased its estimate from $31,500 to a range of $32,000 to $40,000 (Docket Item IV-B-4). However, EPA does not believe that even the higher cost of $40,000 will result in an unreasonable burden on the plants.

The EPA does not consider it appropriate to include the cost of constructing an access and a platform because these items should have been installed to permit stack testing to determine compliance with the mass emission standard as required by 40 CFR 60.8, which states:

(e) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(1) Sampling ports adequate for test methods applicable to such facility.

(2) Safe sampling platform(s).

(3) Safe access to sampling platform(s).

(4) Utilities for sampling and testing equipment.

Thus, the existing platform and access should be adequate as is or with only minor modifications to accept the installation of a COMS.

At Plants C and D, which are subject to the NSPS and which installed COMS's on the existing stacks, the

existing platforms and accesses were used. Plant B, which is not subject to the NSPS, was also able to use the existing platform and access. At Plant C, the platform required slight modifications to widen the platform and strengthen the handrails; and the installation cost was $13,150. Plant A was the only plant responding to this survey that was unable to use the existing platform and access, and this plant is not subject to the NSPS. This plant did not have the platform and access in a suitable location for compliance testing and, thus, for COMS installation.

Certification costs reported were $1,500 at two plants and $5,500 at another plant. The EPA has included the cost of certification with an installation cost of $9,500. All the COMS's that were required to be certified passed the certification test on the first attempt. One plant was not required to certify its COMS. The $5,000 cost seems high, and further inquiry provided no information from this plant about the possible reason. However, the total capital cost at this plant was $36,800, which includes the certification cost; and this total is consistent with the capital cost range of $32,000 to $40,000 that represents EPA's revised estimate.

The EPA does not believe that COMS installation costs will be substantially higher for older plants with limited accessibility than for new plants because all plants subject to the NSPS should have installed and maintained an access for compliance stack testing. At one plant responding to the survey, the kiln was installed in 1963 and the COMS was installed in 1984; however, the COMS installation cost of $8,600 was comparable to the other cost estimates. At another plant, the platform was widened and the handrails were strengthened when the COMS was installed 3 years after construction of the kiln. The costs of these modifications and installation of the COMS totaled approximately $13,150, which is also comparable to the other cost estimates.

The annual costs for utilities, operating labor, maintenance, and capital charges reported by four plants ranged from $6,500 to $12,600, compared to EPA's previous estimate of $10,700. These figures include a capital recovery charge (16.3 percent of capital costs) that has been added to the annual costs reported by Plants A, C, and D to allow comparison with the costs reported by Plant B, which included capital recovery charges. The annual cost for Plant E was not included in the range because the capital recovery factor includes the cost of installing the stack; however, the other components of the annual costs for Plant E were within the range of costs reported by the other plants.

The respondents indicated that very little maintenance is required for the COMS's. The frequency of reported maintenance activities ranged from weekly to monthly and included checking the calibration and cleaning the lens and filter. The number of malfunctions/breakdowns of the COMS was also low and ranged from zero to three incidents per year. No estimates for maintenance labor hours were submitted, and the reported costs of maintenance ranged form $400 to $4,600 per year. The EPA had previously estimated the cost of maintenance at $1,000. Although some of the reported maintenance costs were higher than EPA's estimate, the reported utilities and operating costs were lower than those estimated by EPA. Overall, the total annual costs reported by industry are consistent with the EPA estimate. Because of EPA's decision to increase the estimated range of capital costs to $32,000 to $40,000, the annual cost estimate has been increased to reflect the capital recovery charge ($6,510) associated with the $40,000 capital cost. Thus, EPA estimates that the annual cost for COMS's would be approximately $12,800 (Docket Item IV–B–4). This results in a maximum increase in total annual control costs of 3.8 percent, which is still considered reasonable.

In most cases, only one COMS will be required per kiln. However, for kilns with a separate bypass stack, a COMS will be required on the bypass stack in addition to the main control device stack. No situations have been identified where more than two COMS's will be required per kiln as suggested by one of the commenters.

Of the 64 plants subject to the NSPS, 5 plants may be required to install 4 COMS's each, the most that any plant would be required to install. Assuming the estimated annual cost of $12,800 per COMS, the total annual cost at each of these five plants will be $51,200. Thus, the $45,000 to $85,000 mentioned by one of the commenters is likely to be incurred only by those five plants; costs for the remaining 59 plants will be substantially lower.

The Agency has reviewed the cost estimates provided by one commenter's independent engineering firm and has determined that the capital cost estimates of $125,000 to $130,000 for installation of a COMS are overstated. The EPA does not agree that it is necessary to build a new platform and staircase at this plant; in addition, the type of staircase costed is unnecessarily expensive for its intended purpose. The EPA has evaluated these costs and determined that if the costs of building the stairs and platforms and the associated engineering costs are excluded, the resulting capital cost is about $33,500 including installation, which is consistent with the range of costs ($32,000 to $40,000) estimated by EPA and is supported by responses from the plant survey discussed above.

B. Costs of Using Visible Emission Observers

Several commenters believe that the costs of performing visual observations are understated. They believe that EPA has underestimated the costs to train, certify, and employ qualified personnel; the number of personnel needed; and the time involved in making the required observations, particularly if there are a large number of multiple stacks to read.

The EPA has estimated that a company would need to train two employees to read visible emissions at a total cost of $2,969 including fees, mileage, per diem, hotel, and wages (Docket Item II–B–4). However, two plants surveyed by EPA reported that costs to train observers were $50 and $300. In addition, EPA believes that only one person at a time would be required to perform visible observations for a short period each day and that the remainder of the reader's work day would be used to perform other tasks. The EPA estimates the time required to take three 6-minute readings and reduce the data would be about 40 minutes per day at an annual cost of $6,821. The two plants responding to this question in the survey estimated 1 hour would be required, and one plant estimated an annual cost of $4,400. The EPA has concluded that its estimated cost of visual observations is still appropriate; in fact, the cost may be overstated. Therefore, EPA does not believe the requirement to read visible emissions using certified observers will result in an unreasonable burden on personnel, time, or financial resources.

It will not be necessary to read emissions from every single compartment of a multiple-stack control device. The regulation has been revised to require that visible emission observations be recorded only for the emission site with the highest opacity. Thus, in most cases, the time to perform observations should not exceed 40 to 60 minutes per day.

C. Economic Impact of the Amendments

Several commenters believe that the portland cement industry is

economically depressed and that it should not be required to incur further financial burden. The commenters stated that foreign competition, especially from Mexico, is severe and has caused at least one plant closure. The commenters also believe that the 3 percent increase in total annualized control costs estimated by EPA is not an adequate indicator of the economic impact on the industry and that product price increase and decrease in profits are better indicators of economic impact. One commenter estimated a price increase of $0.50 per ton as a result of the requirement to install COMS's. Another commenter estimated that compliance with the COMS requirement at his company would cost 2.8 percent of the company's 1984 profits because 19 COMS's will be required. The commenter estimates that total industry compliance capital costs will be $12.8 million.

The estimate in the proposal preamble of about a 3 percent increase in annualized control costs to which the commenters referred was obtained by comparing the estimated annual cost to operate a COMS to the annual cost of complying with the existing NSPS at a single affected facility. In this analysis, a worst-case cost was used, that is, installation of a COMS on a small clinker cooler (300,000 tons of clinker produced per year) controlled by a fabric filter was assumed. For this clinker cooker, the annualized cost to comply with the existing NSPS would be about $333,000. Based on EPA's estimate at proposal of the annualized COMS cost, which was $10,700, there was a 3.2 percent increase in annualized control cost. Using EPA's revised estimate of $12,800, the estimated compliance cost increase ranges from 0.6 percent for a large kiln (1,200,000 tons of clinker produced per year) controlled by a fabric filter (annualized control cost of $2,288,000) to 3.8 percent for a small clinker cooler controlled by a fabric filter (i.e., worst case). The amendments will not increase the cost of controlling facilities that are subject to the NSPS but are not required to install COMS's (i.e., the raw mill system, finish mill system, storage facilities, transfer points, and loading/unloading systems). Thus, in most cases, the effect of the COMS requirement will be a cost increase that is less than 3.8 percent of existing overall particulate control costs. For the few facilities that also must install a COMS on the bypass stack, the cost increase would double. However, the resulting impact is still reasonable.

The EPA agrees that comparing the cost of the monitor to the cost of the control device does not necessarily indicate the reasonableness of these costs. However, in this case, EPA believes that COMS costs that are in the range of 0.6 to 3.8 percent of the total particulate control system costs are not unreasonable, especially considering that no other means are available for effectively monitoring control system performance continuously and ensuring proper operation and maintenance.

The Agency used the annualized cost estimate of $12,800 and a product price of $56.78/Mg ($51.62/ton) (Docket Item IV–J–9) to assess the impact of the regulation on product price for a medium-size model plant (544,000 Mg/yr [600,000 tons/yr]) with a 76.3 percent clinker capacity utilization rate. This assessment ($12,800÷(544,000 Mg/yr 0.763)) resulted in an estimated product price increase of $0.03/Mg ($0.03/ton) for one COMS, which represents an increase of 0.05 percent ($0.03/Mg÷ $56.78/Mg) in the product price. The EPA has determined that for the 118 kilns, clinker coolers, and bypass stacks at the 64 plants subject to the NSPS, more than 29 COMS's have been installed, in most cases in response to State requirements. The remaining 89 units will require an average of less than 2 COMS's per facility. The product price impacts just stated could double for facilities that must install two COMS's; however, the impacts are still reasonable.

The 4-year review of this NSPS revealed that no plants closed as a result of the NSPS, and none are expected to close as a result of the requirement to install COMS's. Data from the Bureau of Mines and the Portland Cement Association (Docket Items IV–J–9 and IV–J–8) show that production is increasing currently in the U.S. after the decline experienced by the industry in the late 1970's and early 1980's. The EPA acknowledges that Mexican cement plants compete with U.S. plants located in areas near the Mexican border. However, the product price increase ($0.03/Mg [$0.03/ton]) estimated for one COMS at a medium-size model plant is negligible compared to the $18 per Mg ($20/ton) difference between U.S. and foreign prices and will not have a significant adverse impact on the industry.

The commenter who estimated the cost increase at $0.50 per ton provided no information on the basis of the estimate. However, EPA visited the commenter's facility in 1985 and observed that the facility has two kilns and two clinker coolers subject to the NSPS. There are also alkali bypasses on the kilns, but the exhaust gases from the separate control devices appear to be directed to the kiln control device stack. Thus, it is assumed that four COMS's are needed to comply with the proposed amendments at this facility. (As noted earlier, four is the greatest number of COMS's required by the amendments at any plant.) The EPA estimates the maximum capital cost of installing a COMS to be $40,000 with annualized costs of $12,800. Therefore, the maximum capital cost at the commenter's facility would be about $160,000, and the annualized costs would be about $51,200. The EPA was provided with annual production figures of 453,600 to 544,300 Mg (500,000 to 600,000 tons) for this plant. Thus, the product cost increase at this facility would be $0.11/Mg ($0.10 per ton) (assuming 453,600 Mg [500,000 tons] per year production). This increase is 0.19 percent of $56.78 ($51.62), the 1984 average price per Mg (ton) of cement and is considered a reasonable impact by the Agency. The increase would be even less if the higher rate of production provided by the commenter (544,300 Mg/yr [600,000 tons/yr]) were achieved.

The EPA has evaluated the case of the commenter who believes that a total of 19 COMS's will be needed in his company's 17 plants (Docket Item IV–J–8) and that these COMS's would result in capital costs of $1.5 million, which represents 2.8 percent of the company's 1984 profits. As a result of the analysis of the information obtained in the survey discussed above and the commenter's assumption that 19 COMS's are necessary, EPA estimates that this company would experience capital costs of $760,000 and annualized costs of $243,200. (This company submitted information in response to a section 114 request for costs of COMS installation at one of its plants; the capital cost at the facility presented was $36,900, and the annualized cost was $12,600. For 19 installations, the resulting capital costs would be $701,100 and the annualized costs would be $239,400; these costs are consistent with the EPA estimates presented above.) The annual production for the U.S. cement industry in 1984, according to the Bureau of Mines, was 74.4 million tons. If the commenter's company produces 11.9 percent of industry production, as estimated, this company would have produced 8,853,600 tons in 1984. This production level would result in a product cost increase of $0.03/Mg ($0.03/ton). Using the information provided by the commenter, this company's 1984 net profit is calculated to be $53.6 million ($1.5 million/2.8 percent). This estimate is corroborated

by Moody's Industrial Manual, which reports a 1984 profit of $53,436,000 for this company. Thus, based on the EPA cost estimates presented above, the annualized costs represent 0.5 percent of the annual profit, and the capital costs represent 1.4 percent of the annual profit. The Agency considers these impacts to be reasonable.

As stated previously, EPA has determined that there are 118 kilns, bypasses, and clinker coolers subject to the NSPS and that at least 29 of these units are equipped with COMS's. Thus, about 89 additional COMS's will be needed by the industry to comply with the proposed revisions. Using the estimated maximum capital cost per COMS of $40,000, the industry-wide capital costs are $3,560,000 (1984 dollars) for existing facilities, which is one-fourth to one-third the cost estimated by some commenters. The Agency believes that these costs and the impacts are reasonable.

Legal Considerations

Several commenters state that requiring installation of COMS's on existing facilities is illegal. These commenters believe that EPA has incorrectly interpreted the language and intent of the Clean Air Act as permitting such a requirement and that EPA is setting a dangerous precedent.

Three commenters believe that the statutory language of section 111 and the legislative history of the 1977 amendments to the Clean Air Act expressly state that all NSPS, including revisions, are effective only prospectively and not retroactively. The commenters cite the House of Representatives Conference Report on H.R. 6161: "Any revised requirement under section 111(b) would of course be effective only prospectively and would not apply to any source which actually commenced construction or modification before such revised standards became effective." Another commenter states that it is contrary to the intent of the Clean Air Act to use section 114 (inspections, monitoring, and entry) to adopt retroactively standards that circumvent the prospective applicability of section 111 (standards of performance for new stationary sources). The commenter contends that: (1) Only sources for which construction commenced or that are modified after the date of proposal of the revisions are subject to the amendments, which are effective at promulgation; (2) the prospective applicability of NSPS has been uniformly recognized by the Agency both in its promulgation of NSPS and its enforcement of them; and (3) although most of the recently promulgated NSPS have required some form of opacity monitoring, the Agency is not free to apply its new source regulations retroactively. The commenter cites cases where courts have recognized that NSPS are effective only prospectively.

One commenter states that the technology for reliably determining optical density and relating it to opacity was not demonstrated and not available in 1971. According to the commenter, EPA is now suggesting that it has the authority to require sources that have been in operation for many years to employ a technology that was not available when the sources were constructed.

The Administrator disagrees with these commenters. The authority for these requirements is not section 111 but section 114 of the Act, 42 U.S.C. 7414, which provides:

> (a) For the purpose (i) of developing or assisting in the development of * * * any standard of performance under Section 7411 of this title * * * [or] (ii) of determining whether any person is in violation of any such standard * * *
>
> (1) The Administrator may require any person who owns or operates *any emission source* * * * to (A) establish and maintain such records, (B) make such reports, (C) install, use and maintain such monitoring equipment or methods, (D) sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and (E) provide such other information as he may reasonably require * * * [emphasis added].

"[S]ection 114(a)(1) identifies a certain composite class of persons—those who own or operate emission sources or who are subject to any requirement of the Act—and authorizes the Administrator to require *any person* in that class to do any or all of the five things enumerated." *Ced's Inc. v. EPA*, 745 F.2d 1092, 1098 (7th Cir. 1984) (emphasis added). "[T]he agency is authorized to request the owner or operator * * * to supply the agency with whatever information it 'may reasonably require' to carry out its statutory responsibilities." *U.S. v. Tivian Laboratories, Inc.*, 589 F.2d 49, 53 (1st Cir. 1978).

There is no exemption in section 114 for sources that have already been constructed. Indeed, it is hard to imagine how any such examption could be consistent with the broad purpose of section 114 to provide the Administrator with the information necessary to adopt and enforce standards under the Act.

The amendments require monitoring, recordkeeping, and reporting of emissions from kilns and clinker coolers that are subject to the NSPS. These requirements will ensure proper operation and maintenance of control equipment. The COMS's help to ensure effective enforcement of the standards because data from a COMS are used as an indicator of the compliance status of the source and may be used to identify the need for inspections, performance tests, or other enforcement activities. Thus, the proposed requirements, imposed for the purposes of determining whether persons are in violation of the NSPS and of developing future standards of performance, fall squarely within the grant of authority in section 114. The requirements do not change the standards of performance themselves.

Testing and Monitoring

One commenter, an air pollution control agency official, agrees with the Agency that 180 days after initial startup of a facility is sufficient time in which to conduct a performance test and states further that the 180-day limit is probably too long. However, two portland cement companies do not believe that 180 days is enough time for manufacturers to supply all the COMS's that will be required for the entire industry to comply with the regulation. These commenters requested that the 180-day period be verified. One commenter estimates that it would require up to 2 years for his company to prepare and approve capital budgets, engineer the installation, order the equipment, and install the total of 19 COMS's that would be required for all its plants.

Several COMS vendors and one consultant were contacted to determine if the 180-day requirement for installation of COMS's could be met (Docket Items IV–B–3, IV–E–11, 12, 13, and 14), and they agreed that 6 months is a reasonable time period. The primary factor affecting whether the 6-month deadline can be met is delivery time. Estimates of delivery time ranged from 1 week (a rush order) to 2 months, with an average estimated delivery time of 1 month. Time for placing the order ranged from 1 to 8 weeks depending on whether the facility orders directly from a catalog or requests vendors to submit bids, provide a list of references, or perform demonstrations. The COMS's are fairly standard in design and do not have to be custom-made, and it is not expected that companies will invest a substantial amount of time in ordering.

Installation is expected to require 1 to 2 weeks if the existing platform is used. If the platform (or other means of access) also requires modifications, up to 2 months could be needed for installation. However, the platform

could be modified before delivery of the COMS. Testing and certification are relatively simple procedures and would require approximately 1 week. Writing and submitting a report to the State agency or EPA regional office would take between 2 and 4 weeks. In the worst case, a period of 6 months would be required for a COMS to be on-line. In most cases, however, startup of a COMS will require only 3 to 4 months.

The vendors contacted also confirmed that they would be able to supply the projected number of COMS's that will be required for plants in this industry to comply with the regulation. Therefore, the Administrator believes that 180 days provides sufficient time to order, install, and test the COMS's required on affected facilities at portland cement plants.

Several commenters questioned that necessity and fairness of the requirement to retrofit COMS's on existing kilns and clinker coolers. The commenters claim that EPA has not demonstrated that COMS's improve operation and maintenance beyond that provided by existing equipment and current operating practices. The commenters gave the following reasons for their contention that COMS's are not necessary:

1. The EPA acknowledged that present standards are being met, and, therefore, neither monitoring nor visual observations are technically justified;

2. The EPA has not supported or documented the statement that COMS's or Method 9 observations will necessarily improve proper operation and maintenance of control equipment;

3. The COMS's do not prevent malfunctions and are not required for determining whether controls are functioning properly;

4. The COMS's in themselves do not reduce emissions, and EPA has not demonstrated that the magnitude of particulate emissions from portland cement plants warrants installations of COMS's;

5. Information from COMS's would be redundant because methods other than COMS's (e.g., monitoring of pressure drop, temperature, and electrical parameters; alarm mechanisms that identify system failures) are used for monitoring proper operation and maintenance of control equipment. In addition, in many plants, maintenance scheduling systems (MSS) are in use that include additional periodic monitoring of particulate matter control systems by maintenance personnel. In some cases, records of these maintenance scheduling system inspections are required under the operating permit; and

6. Portland cement plants are already subject to frequent monitoring by State and local agencies and by EPA, and sufficient reporting and inspection procedures are already in place to make the additional requirements unnecessary. Many States also conduct spot checks or annual on-site inspections or require annual compliance tests that include stack tests and Method 9 observations. Furthermore, plant personnel usually make daily (or more frequent) visual inspections.

The EPA disagrees with the commenters' assertion that COMS's are not necessary and responds to each point made by the commenters as follows:

1. The Agency agrees that the standards are being met as determined by the initial performance tests using Methods 5 and 9. However, compliance tests can demonstrate only that a source is meeting the applicable standards at the time the tests are conducted. Without continuous opacity monitoring via either a COMS or visual observation, neither the plant operator nor enforcement personnel can determine whether control equipment is properly operated and maintained on a continuous basis and whether there is reason to believe that the emission limits are being exceeded.

2. The Agency believes that the benefits of continuous monitoring in ensuring proper operation and maintenance are considerable. The effectiveness of COMS's in accomplishing this goal has long been recognized by the Agency. (See 49 FR 18076, April 26, 1984; 44 FR 33580, June 11, 1979; 36 FR 24876, December 23, 1971.) Furthermore, the need for COMS's for the portland cement industry has been recognized since the first 4-year review, and the use of COMS's was recommended in the Federal Register notice summarizing the results of that review (44 FR 60761, October 22, 1979). Such monitoring will alert the operator to the gradual deterioration in control device performance that may occur over time as the result of inadequate maintenance or improper operation, thus allowing the owner or operator to take the necessary action (either a change in operation or increased maintenance) to minimize the increase in emissions. Therefore, a COMS will result in improvements in the operation and maintenance of the control device.

3. The COMS's are not intended to prevent malfunctions; they are required to ensure that control equipment has not deteriorated over time and is being properly operated and maintained. This may aid in preventing malfunctions by alerting the operator to potential problems that could cause malfunctions.

4. It is not the purpose of COMS's in themselves to reduce emissions. In an EPA-sponsored study on operation and maintenance problems, the total annual excess emissions from cement kilns were approximately 35 Mg (38 tons) per kiln per year. The Agency has determined that COMS's represent an effective means for ensuring proper operation and maintenance of particulate matter control equipment, which should, in turn, reduce excess emissions. Thus, indirectly, emissions are reduced by the use of COMS's. The Agency has discovered no other means as effective as requiring the use of COMS's to ensure proper operation and maintenance of control equipment.

5. Monitoring of process or control device parameters may alert the operator to sudden and total failure of the control device; however, there is no evidence that these indicators are sensitive to the subtle and gradual deterioration of the control device that may occur over a period of time. In fact, one utility company has found that COMS's represent a feasible method of optimizing ESP performance (Docket Item IV–J–10). In contrast to stack testing, COMS's allow real-time observations of the effects of fuel changes and control system changes (e.g., excess air levels, precipitator voltage, and rapping) on process operation and control device performance.

Furthermore, the Agency has found that excess emissions at cement plants are caused primarily by improper control device operation and maintenance. Although the maintenance scheduling system may be used in some plants to ensure proper maintenance, the Agency believes that use of COMS's is the most effective means to ensure that the control equipment is properly operated. The Agency has no information to show whether visual observations are routinely performed at all cement plants; however, where use of a COMS is practicable, a COMS can provide continuous data. Therefore, the Agency believes that a COMS (where use is feasible) is the most effective means to ensure proper operation and maintenance. There are no data to show how monitoring of process parameters will ensure that pollution control equipment is properly operated and maintained on a continuous basis. For these reasons, the Agency has determined that COMS's are appropriate and necessary as indicators of proper control device operation and maintenance and that their use will

significantly reduce the quantity of excess emissions from portland cement plants.

6. The commenter does not provide any information about the type and/or frequency of monitoring by State, local, and EPA personnel. However, the EPA does not consider inspections that are sporadic rather than continuous to be redundant with the monitoring requirements of the proposed amendments. Some plants are subject to annual walk-through inspections by the State, but few plants (if any) are subject to annual compliance stack testing. (See entries in Docket Category IV–E.) Annual and periodic inspections performed by State and local agencies are intended to determine compliance with the standards at the time of inspection and are not intended to ensure continuous proper operation and maintenance of particulate matter control equipment. About one-half of the kilns subject to the NSPS are already using COMS's. Excess emission reports submitted pursuant to State or local requirements can be copied and submitted to the Administrator to fulfill the NSPS reporting requirement if such reports satisfy EPA's information requirements.

Two commenters believe that all control devices, including negative-pressure fabric filters, with multiple stacks are environmentally superior to single stacks, but that the proposed regulation would provide a strong incentive to use single stacks in order to avoid installing multiple COMS's. If multiple-section fabric filters were vented to a single stack, an observer might require an hour to find the cause of a subtle change in plume opacity. With multiple stacks, a malfunctioning baghouse section is easily identifiable by virtue of its contrasting plume opacity relative to the opacity of the plumes of adjacent stacks, and that compartment can be taken off-line right away. One commenter also requests that owners or operators using ESP's with multiple stacks be afforded the alternative of using visible emission observations in lieu of in-stack monitoring, as is permitted for fabric filters with multiple stacks.

The EPA has reevaluated its position on multiple-stack fabric filters and ESP's. The Administrator agrees that multiple-stack control devices may offer some economic and environmental advantages, as described in the comment. Therefore, the Administrator does not want to discourage the use of multiple-stack control devices by requiring installation of multiple COMS's. Also, at the time of proposal, EPA was not aware that any portland cement plants use ESP's with multiple stacks. Because one plant is now known to use an ESP with multiple stacks, the Agency will allow the alternative of performing visible emission observations using a certified observer in lieu of installing COMS's. Thus, the regulation has been revised to allow owners or operators of exisitng and new multiple-stack, positive- or negative-pressure fabric filters or multiple-stack ESP's the option of performing Method 9 observations daily in lieu of installing COMS's.

The regulation also has been revised to clarify that, where visible emissions are observed at a number of emission sites on either multiple-stack fabric filters or ESP's, Method 9 observations must be made for the emission site with the highest opacity.

Reporting and Recordkeeping

Several commenters contend that recordkeeping of either opacity monitoring data or visual emission data is costly and that it is not needed because recordkeeping does not affect emissions. It was requested that EPA reconsider the recordkeeping requirements and withdraw them.

The Administrator has reevaluated the proposed recordkeeping and reporting requirements and has decided to withdraw the separate requirement for semiannual reports on the frequency, duration, and cause of any incident or malfunction leading to bypass or deenergization of the kiln control device for sources using a COMS. Section 60.7(c) of the General Provisions requires that excess emission reports include the frequency, duration, cause, and corrective action taken for periods of excess emissions that occur during malfunctions. Therefore, the Administrator had determined that excess emission reports would provide an accurate record of periods of bypass or deenergization. If such periods do not cause excess emissions, a report on the incidents is not necessary. However, those sources not equipped with opacity monitors will be required to submit semiannual reports on the frequency, duration, and cause of any incident or malfunction leading to bypass or deenergization of the kiln control device.

In addition to this change, the Administrator has reevaluated the required frequency of reporting COMS excess emission data. Under NSPS, reporting frequencies of data, other than direct compliance information, are reviewed on a case-by-case basis, and semiannual reporting of these data is required unless evidence is produced that supports more frequent reporting (50 FR 46467, November 8, 1985). Therefore, the regulation has been revised to require semiannual reporting of COMS excess emission data.

The Administrator has determined that the recordkeeping and reporting requirements associated with Method 9 observations and with the use of COMS's that are being promulgated by publication of this notice are essential for effective enforcement and will not impose an excessive burden on the industry. A maximum of 0.1 person per year at a cost of approximately $7,300 per affected facility (based on $30.45/h, which includes labor and overhead) will be necessary to comply with the recordkeeping and reporting requirements described herein (Docket Item IV–H–2). This cost estimate represents a worst case; it assumes that two excess emission periods will be recorded and reported annually for an affected facility. This case would not be typical.

V. Administrative Requirements

The docket is an organized and complete file of all the information considered by EPA in the development of this rulemaking. The docket is a dynamic file because material is added through the rulemaking development. The docketing system is intended to allow members of the public and industries involved to identify and locate documents so that they can effectively participate in the rulemaking process. Along with the statement of basis and purpose of the proposed and promulgated amendments to the NSPS and EPA responses to significant comments, the contents of the docket, except for interagency review materials, will serve as the record in case of judicial review (see Clean Air Act, section 307(d)(7)(A), 42 U.S.C. 7607(d)(7)(A)).

The effective date of this revised regulation is December 14, 1988.

This revised regulation will be reviewed again in 4 years. The review will include an assessment of such factors as the need for integration with other programs, the existence of alternative methods, enforceability, improvements in emission control technology, and reporting requirements.

Section 317(a) of the Clean Air Act, 42 U.S.C. 7617(a), states that economic impact assessments are required for revisions to standards or regulations when the Administrator determines such revisions to be substantial. The revisions to the portland cement NSPS do not change the mass or visible emission limits for any of the affected facilities. Today's revisions add

requirements for continuous opacity monitoring and for reporting of malfunctions during which the control device for the kiln is deenergized or bypassed. An abbreviated economic analysis was performed that indicated the maximum increase in compliance costs as a result of these revisions would be 3.8 percent. Because the cost of complying with the revision is small, the monitoring, recordkeeping, and reporting requirements have been determined to be insubstantial. Because the amendments are not substantial, no detailed economic impact assessment of the amendments has been prepared. An economic analysis of the standards was prepared during development of the original standards (36 FR 15704, August 17, 1971); the economic impacts of the revised standards are essentially the same as those described in that economic analysis.

Paperwork Reduction Act

The information collection requirements in this rule have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* and have been assigned OMB control number 2060–0025.

Public reporting burden for this collection of information is estimated to average 332 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Send comments regarding the burden estimate or other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM–223, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503, marked "Attention: Desk Officer for EPA."

Under Executive Order 12291, EPA is required to judge whether a regulation is a "major rule" and therefore subject to the requirement of a regulatory impact analysis (RIA). The Agency has determined that the amendments would result in none of the significant adverse economic effects set forth in section 1(b) of the Order as grounds for finding a regulation to be a "major rule." The amendments are not substantial. The Agency has, therefore, concluded that this action is not a "major rule" under Executive Order 12291.

The Regulatory Flexibility Act of 1980, 5 U.S.C. 601–612, requires the identification of potentially adverse impacts of Federal regulations upon small business entities. The Act requires the completion of a regulatory flexibility analysis for every rule unless the Administrator certifies that the rule will not have a significant economic impact on a substantial number of small entities. Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that the final rule will not have a significant economic impact on a substantial number of small entities. The reasons for this certification were explained in the preamble to the proposed rule (50 FR 36963, September 10, 1985), which concluded that the economic impact of this rule is not significant.

List of Subjects in 40 CFR Part 60

Air pollution control, Intergovernmental relations, Reporting and recordkeeping requirements, Incorporation by reference, Portland cement plants.

Date: December 3, 1988.

Lee M. Thomas,

Administrator.

40 CFR Part 60 is amended as follows:

PART 60—[AMENDED]

1. The authority citation for Part 60 continues to read as follows:

Authority: Secs. 101, 111, 114, 116, 301 of the Clean Air Act, as amended (42 U.S.C. 7401, 7411, 7414, 7416, 7601).

2. In § 60.61, paragraphs (b), (c), and (d) are added to read as follows:

§ 60.61 Definitions.

* * * * *

(b) "Bypass" means any system that prevents all or a portion of the kiln or clinker cooler exhaust gases from entering the main control device and ducts the gases through a separate control device. This does not include emergency systems designed to duct exhaust gases directly to the atmosphere in the event of a malfunction of any control device controlling kiln or clinker cooler emissions.

(c) "Bypass stack" means the stack that vents exhaust gases to the atmosphere from the bypass control device.

(d) "Monovent" means an exhaust configuration of a building or emission control device (e.g., positive-pressure fabric filter) that extends the length of the structure and has a width very small in relation to its length (i.e., length to width ratio is typically greater than 5:1). The exhaust may be an open vent with or without a roof, louvered vents, or a combination of such features.

3. In § 60.63, paragraphs (b), (c), (d), and (e) are added to read as follows:

§ 60.63 Monitoring of operations and emissions.

* * * * *

(b) Except as provided in paragraph (c) of this section, each owner or operator of a kiln or clinker cooler that is subject to the provisions of this subpart shall install, calibrate, maintain, and operate in accordance with § 60.13 a continuous opacity monitoring system to measure the opacity of emissions discharged into the atmosphere from any kiln or clinker cooler. Except as provided in paragraph (c) of this section, a continuous opacity monitoring system shall be installed on each stack of any multiple stack device controlling emissions from any kiln or clinker cooler. If there is a separate bypass installed, each owner or operator of a kiln or clinker cooler shall also install, calibrate, maintain, and operate a continuous opacity monitoring system on each bypass stack in addition to the main control device stack. Each owner or operator of an affected kiln or clinker cooler for which the performance test required under § 60.8 has been completed on or prior to December 14, 1988, shall install the continuous opacity monitoring system within 180 days after December 14, 1988.

(c) Each owner or operator of a kiln or clinker cooler subject to the provisions of this subpart using a positive-pressure fabric filter with multiple stacks, or a negative-pressure fabric filter with multiple stacks, or an electrostatic precipitator with multiple stacks may, in lieu of installing the continuous opacity monitoring system required by § 60.63(b), monitor visible emissions at least once per day by using a certified visible emissions observer. If the control device exhausts gases through a monovent, visible emission observations in lieu of a continuous opacity monitoring system are required. These observations shall be taken in accordance with EPA Method 9. Visible emissions shall be observed during conditions representative of normal operation. Observations shall be recorded for at least three 6-minute periods each day. In the event that visible emissions are observed for a number of emission sites from the control device with multiple stacks, Method 9 observations shall be recorded for the emission site with the highest opacity. All records of visible emissions shall be maintained for a period of 2 years.

(d) For the purpose of reports under § 60.65, periods of excess emissions that

shall be reported are defined as all 6-minute periods during which the average opacity exceeds that allowed by § 60.62(a)(2) or § 60.62(b)(2).

(e) The provisions of paragraphs (a), (b), and (c) of this section apply to kilns and clinker coolers for which construction, modification, or reconstruction commenced after August 17, 1971.

(Approved by the Office of Management and Budget under control number 2060-0025.)

4. In § 60.64, paragraph (a)(5) is added to read as follows:

§ 60.64 Test methods and procedures.

(a) * * *

(5) Method 9 and the procedures in § 60.11 for measuring the opacity of stack emissions.

* * * * *

5. Section 60.65 is added to read as follows:

§ 60.65 Recordkeeping and reporting requirements.

(a) Each owner or operator required to install a continuous opacity monitoring system under § 60.63(b) shall submit reports of excess emissions as defined in § 60.63(d). The content of these reports must comply with the requirements in § 60.7(c). Notwithstanding the provisions of § 60.7(c), such reports shall be submitted semiannually.

(b) Each owner or operator monitoring visible emissions under § 60.63(c) shall submit semiannual reports of observed excess emissions as defined in § 60.63(d).

(c) Each owner or operator of facilities subject to the provisions of § 60.63(c) shall submit semiannual reports of the malfunction information required to be recorded by § 60.7(b). These reports shall include the frequency, duration, and cause of any incident resulting in deenergization of any device controlling kiln emissions or in the venting of emissions directly to the atmosphere.

(d) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Clean Air Act, 42 U.S.C. 7411, approves reporting requirements or an alternative means of compliance surveillance adopted by such States. In that event, affected sources within the State will be relieved of the obligation to comply with this section, provided that they comply with the requirements established by the State.

(Approved by the Office of Management and Budget under control number 2060-0025.)

6. Section 60.66 is added to read as follows:

§ 60.66 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: No restrictions.

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